

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A name resolution device for managing a name of each node which is connected to a network and whose position on the network can be changed, and an address for identifying each node, comprising:

a node information storing unit configured to store a node information containing a name of a node, a network identification information, a prefix indicating a position of a node on the network, and an interface identification information of a node, for each node;

a node information collecting unit configured to collect the node information of other nodes connected to the network, through the network;

a node information updating unit configured to update the node information stored in the node information storing unit, according to the node information of the other nodes collected by the node information collecting unit, by updating the prefix stored in the node information storing unit by using the interface identification information contained in the node information collected by the node information collecting unit as a key;

a function conversion unit configured to convert the interface identification information corresponding to a prescribed node among the node information stored in the node information storing unit, by using a one-way function;

a comparing unit configured to, under a condition where a prefix corresponding to the interface identification information of the prescribed node stored in another node, not connected to the network, differs from a prefix corresponding to the interface identification information of the prescribed node, shared with the another node and stored in the node information storing unit, compare the interface identification information converted by using the one way function which is received from another node, with the interface identification information as converted by the function conversion unit, in order to allow the another node to obtain the prefix corresponding to the interface identification information of the prescribed node, shared with the another node and stored in the node information storing unit; and

a node information providing unit configured to provide the prefix corresponding to the interface identification information compared by the comparing unit to the another node, but without the interface identification information, only when it is judged that the converted interface identification information from the function conversion unit coincides with the converted interface identification information from the another node at the comparing unit.

2. (Original) The name resolution device of claim 1, wherein the node information updating unit updates the node information stored in the node information storing unit for which the interface identification information coincides with that of the node information collected by the node information collecting unit but the prefix does not

coincide with that of the node information collected by the node information collecting unit.

3. (Cancelled)

4. (Previously Presented) The name resolution device of claim 1, wherein the function conversion unit uses a hash function as the one way function.

5. (Original) The name resolution device of claim 1, further comprising:
a prefix conversion unit configured to convert the prefix into a position identification information which is in one-to-one correspondence to the prefix;
wherein the node information storing unit stores the position identification information obtained by the prefix conversion unit, as the prefix.

6. (Original) The name resolution device of claim 1, further comprising:
an address generation unit configured to generate an IPv6 address dynamically, according to the node information stored in the node information storing unit.

7. (Currently Amended) A name resolution method for managing a name of each node which is connected to a network and whose position on the network can be changed, and an address for identifying each node, comprising:

storing a node information containing a name of a node, a network identification information, a prefix indicating a position of a node on the network, and an interface identification information of a node, for each node;

collecting the node information of other nodes connected to the network, through the network;

updating the node information stored by the storing, according to the node information of the other nodes collected by the collecting, by updating the prefix stored by the storing by using the interface identification information contained in the node information collected by the collecting as a key;

converting the interface identification information corresponding to a prescribed node among the node information stored by the storing, by using a one way function;

under a condition where a prefix corresponding to the interface identification information of the prescribed node stored in another node, not connected to the network, differs from a prefix corresponding to the interface identification information of the prescribed node, shared with the another node and stored by the storing, comparing the interface identification information converted by using the one way function which is received from the another node, ~~but without the interface identification information,~~ with the interface identification information as converted by the converting, in order to allow the another node to obtain the prefix corresponding to the interface identification information of the prescribed node, shared with the another node and stored by the storing; and

providing the prefix corresponding to the interface identification information compared by the comparing to the another node, but without the interface identification information, only when it is judged that the converted interface identification information coincides with the converted interface identification information from the another node at the comparing.

8. (Previously Presented) The name resolution method of claim 7, wherein the updating updates the node information stored by the storing for which the interface identification information coincides with that of the node information collected by the collecting but the prefix does not coincide with that of the node information collected by the collecting.

9. (Cancelled)

10. (Previously Presented) The name resolution method of claim 7, wherein the converting uses a hash function as the one way function.

11. (Previously Presented) The name resolution method of claim 7, further comprising:

converting the prefix into a position identification information which is in one-to-one correspondence to the prefix;

wherein the storing stores the position identification information obtained by the converting, as the prefix.

12. (Previously Presented) The name resolution method of claim 7, further comprising:

generating an IPv6 address dynamically, according to the node information stored by the storing.

13. (Currently Amended) A computer-readable medium having computer-executable instructions for performing a method for causing a computer to function as a name resolution device for managing a name of each node which is connected to a network and whose position on the network can be changed, and an address for identifying each node, the method comprising:

storing a node information containing a name of a node, a network identification information, a prefix indicating a position of a node on the network, and an interface identification information of a node, for each node;

collecting the node information of other nodes connected to the network, through the network;

updating the stored node information according to the collected node information of the other nodes by updating the stored prefix using the interface identification information contained in the collected node information as a key;

converting the interface identification information corresponding to a prescribed node among the stored node information, by using a one way function;

under a condition where a prefix corresponding to the interface identification information of the prescribed node stored in another node, not connected to the network, differs from a prefix corresponding to the interface identification information of the prescribed node, shared with the another node and stored by the storing, comparing the interface identification information converted by using the one way function which is received from the another node, ~~but without the interface identification information~~, with the converted interface identification information, in order to allow the another node to obtain the prefix corresponding to the interface identification information of the prescribed node, shared with the another node and stored by the storing; and

providing the prefix corresponding to the compared interface identification information to the another node, but without the interface identification information, only when it is judged that the converted interface identification information from the one way function conversion coincides with the converted interface identification information from the another node when comparing.

14. (Previously Presented) The computer-readable medium of claim 13, wherein the updating includes updating the stored node information for which the interface identification information coincides with that of the collected node information but the prefix does not coincide with that of the collected node information.

15. (Cancelled).

16. (Previously Presented) The computer-readable medium of claim 13, wherein the converting uses a hash function as the one way function.

17. (Previously Presented) The computer-readable medium of claim 13, further comprising:

converting the prefix into a position identification information which is in one-to-one correspondence to the prefix;

wherein the storing includes storing the converted position identification information as the prefix.

18. (Previously Presented) The computer-readable medium of claim 13, further comprising:

generating an IPv6 address dynamically, according to the stored node information.